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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,983	03/22/2004	John Richard Shutt	2004B022	2798

23455 7590 03/05/2007  
EXXONMOBIL CHEMICAL COMPANY  
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BAYTOWN, TX 77522-2149

EXAMINER
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SACKEY, EBENEZER O

ART UNIT	PAPER NUMBER
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1624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/805,983

Applicant(s)

SHUTT ET AL.

Examiner

EBENEZER SACKY

Art Unit

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 12-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____  |

Continuation of Attachment(s) 3. Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :3/22/04,4/16/04,6/29/04,12/7/04,6/20/05.

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### **DETAILED ACTION**

This is in response to applicant's restriction filed on 11/10/06.

#### **Status of the Claims**

Claims 1-27 are pending.

#### ***Information Disclosure Statement***

Receipt of the Information Disclosure Statement filed on 03/22/04, 04/16/04, 06/29/04, 12/07/04 and 06/20/05 respectively is acknowledged and has been entered into the file.

Signed copies of the 1449 are attached herewith.

#### ***Response to Restriction***

Applicant's election with traverse of Group I, claims 1-11 in the reply filed on 11/10/06 are acknowledged. The traversal is on the ground(s) that a search of one group would necessitate a search for the other, and therefore, it would be efficient to search the entire application as filed. This is not found persuasive because the two groups are patentably distinct and each group can support its own patent and because an oxygenate stream contains more than propylene and thus, can produce more than one product depending on the presence of other reactants and catalysts which would then result in additional search which constitutes undue burden on the Examiner.

The requirement is still deemed proper and is therefore made FINAL.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not entirely clear what the metes and bounds of an oxygenate-to-olefin reaction system is. To oxygenate is to enrich with oxygen, thus what is being enriched.

Additionally, "derivative product" as claimed herein is not understood.

Clarification is requested.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuechler et al., (U.S. Patent Application number 2003/0045761).

Applicants claim a process for converting propylene in an oxygenate to an olefin, i.e., providing a product stream from an oxygenate to olefin reaction system, wherein the product stream contains propylene and one or more contaminants, directing the product stream to a derivative process reactor and converting the propylene to derivative product comprising acrolein, acrylic acid, acrylonitrile, acetone, isopropanol, cumene or propylene oxide.

Kuechler et al., discloses the production of olefin derivatives by contacting an oxygenate feed with molecular sieve catalyst to form an olefin-containing product. See page 1

paragraph 0009-0010, page 2 paragraph 0019-0022, page 3 lines 1-7 and page 4 paragraphs 0038-0039.

### **Claim Rejections - 35 U.S.C. § 103**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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3. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuechler et al., (U.S. Patent 2003/0045761).

Applicants claim a process for converting propylene in an oxygenate to an olefin, i.e., providing a product stream from an oxygenate to olefin reaction system, wherein the product stream contains propylene and one or more contaminants, directing the product stream to a derivative process reactor and converting the propylene to derivative product comprising acrolein, acrylic acid, acrylonitrile, acetone, isopropanol, cumene, n-butyraldehyde, isobutyraldehyde, 2-ethylhexanol or propylene oxide.

**Determination of the scope and content of the prior art (MPEP §2141.01)**

Kuechler et al., discloses the production of olefin derivatives by contacting an oxygenate feed with molecular sieve catalyst to form an olefin-containing product. The said reference teaches that the product formed contains less than 10 ppm wt of a contaminant. See the entire disclosure especially page 1 paragraph 0009-0010, page 2 paragraph 0019-0022, page 3 lines 1-7, page 4 paragraphs 0038-0039.

**Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)**

The difference between the instant process and Kuechler et al., resides in the amount of contaminants present. Kuechler et al., discloses that "contaminant levels are significantly lower", without listing the specific contaminants, see page 4, paragraph 0038, whereas the current process lists the contaminants present and the percentages present. However, in view of similar oxygenate feed (starting material) and process conditions, there is a reasonable expectation that the resulting product(s) and contaminants would be the same since applicant's specification and Kuechler et al., disclose similar impurities arising out of the process. Additionally, process parameters such as the level of impurities (weights parts per million) are also similar (claims 3-11).

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Furthermore, Kuechler et al., discloses the various sources of oxygenate contaminants in paragraph 0039 and 0064.

**Finding of prima facie obviousness---rational and motivation (MPEP §2142-2143)**

Accordingly, at the time of filing this application, one of ordinary skill in the art would thus, have been motivated to prepare the claimed olefins from an oxygenate feed with a reasonable expectation that the resulting process would provide high yield and/or selectivity for olefins because Kuechler discloses that the conversion process disclosed therein produces light olefins such as claimed herein. Hence, the instantly claimed process is an expected process and would therefore have been suggested to one of ordinary skill in the art absent a showing of unexpected results and or properties.

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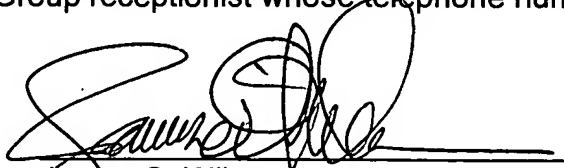
Any inquiry concerning this communication or earlier communications from the examiner should be directed to E. Sackey whose telephone number is (571) 272-0704.

The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, can be reached on (571) 272-0661. The fax phone number for this Group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.

EOS  
February 21, 2007



James O. Wilson  
Supervisory Patent Examiner



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